A High-frequency Electro-thermal Installation of a New Series

includes protection against short-circuit, overload and under-voltage. A general view of the equipment is given in Fig.2. It is housed in a number of separate cubicles, whose contents are described.
A wide range of tests was made on the equipment; its characteristics are given in Fig.3. These curves show that the generator can easily be adjusted to give the best operating conditions on the most varied loads. The oscillatory power ranges from 40 - 60 kW and the efficiency of the generator valve is 72 - 78%. The power-factor depends on the ignition angles of the thyratron and ranges from 0.72 - 0.93. During the tests careful measurements were made of radio-interference with the results plotted in Fig.4, which shows that interference is worst at light-loads but is still within the specified limits even when the cubicle doors are open.
There are 4 figures, and 3 Russian references.

ASSOCIATION: The Leningrad Works for High-frequency Installations (Leningradskiy zavod vysokochastotnykh ustanovok)

SUBMITTED: October 18, 1957
AVAILABLE: Library of Congress

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105-58-6-6/33

AUTHORS: Donskoy, A. V., Doctor of Technical Sciences,
Nadtochiy, B. F., Engineer

TITLE: Inductive Heating of Internal Cylindric Metal-Surfaces
(Induktsionnyy nagrev vnutrennikh tsilindricheskikh poverkhnostey metalla)

PERIODICAL: Elektrichestvo, 1958, Nr 6, pp. 25 - 29 (USSR)

ABSTRACT: The problem of the quantity and character of the distribution of the energy absorbed by the heated metal is investigated here. For this purpose a surface formed by a hollow cylinder, the diameter of which and the length of the inductor located in this hollow space are substantially smaller than the length of the hollow space, is considered. The formulae for the calculation of the distribution and amount of energy received by the walls of the hollow cylinder can be obtained starting from formula (1). In this case the integrating of the internal cylindric surface according to formula (2) is sufficient. The ratio between the fieldcomponents $\dot{E}_s$ and $\dot{H}_s$ is applied to the determination

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of the electric field-strength on the cylindrical surface. This ratio is obtained with solving the problem on the distribution of the electromagnetic field in the infinite metallic halfspace which is limited by a plane, viz. a plane electromagnetic wave impinges normally on this plane. The system of Maxwell's equations which expresses the inductor-field within the cylindric hollow space with ideally conducting walls by taking account of the axial symmetry of the electric field and by taking account of the fact that the conductivity of the medium $\sigma_c \ll 10\varepsilon_c$ filling the hollow space, can be represented by the formulae (4). ε_c denotes the dielectric constant of the medium. Equation (5) for the field strength of the electric field is obtained from (4). (5) can be solved according to the general method elaborated by G. A. Grinberg (Reference 7). The final formula (7) is given here. The formula for the field strength of the magnetic field can be obtained now from (7) and from the system of differential equations (4).... (8), or (13), respectively. The obtained formulae make it possible to pass over-corresponding to the method given here - immediately to the calculation of the amount

and distribution of the energy received by the internal cylindrical metal surface. (14) as well as (15) are obtained here according to (2), (3), (8) and (13), in which case the latter formula is introduced into formula (1) and the term (16) which determines the amount of the energy received by the unit of length of the cylindrical surface is obtained. (2) and (3) are employed and the amount of energy received by the whole cylindrical surface or of a part of the same with an inductor of finite length is determined according to formula (17). The solutions obtained here can be applied for the determination of equivalent electric parameters of an electromagnetic system inductor-metal. The obtained formulae were partly exmined by experiments. The results of the test show that the accuracy of the calculation according to the method given here is entirely sufficient for practice. Ya. S. Uflyand advised the author on individual mathematical problems. There are 5 figures and 9 references, 9 of which are Soviet.

Inductive Heating of Internal Cylindric Metal-Surfaces 105-58-6-6/33

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. Kalinina (Leningrad Polytechnical Institute imeni Kalinin)

SUBMITTED: April 18, 1957

1. Cylinders--Heating 2. Induction heating--Performance
3. Electromagnetic fields--Properties 4. Mathematics

Card 4/4

DOMSKOY, A.V., prof., doktor tekhn.nauk

Conferences and courses on operation and design of high-frequency electrothermal installations. Prom. energ. 13 no.11:38 N '58. (MIRA 11:11)
(Thermoelectricity--Congresses)

SOV/110-59-1-21/28

AUTHORS: Prof. Donskoy, A.V. (Dr. Technical Sciences) and Khansuvarov, A.A., (Engineer)

TITLE: The Frequency Range for High-Frequency Heating Installations (Diapazony chastot dlya ustanovok vysokochastotnoy elektrotermii)

PERIODICAL: Vestnik Elektropromyshlennosti,1959,Nr 1,pp 68-70 (USSR)

ABSTRACT: This article discusses one entitled 'Standards of Maximum Permitted Radio Interference' by Donskoy and Frumkin, Vestnik Elektropromyshlennosti, 1956, Nr 11. Methods of screening high-frequency installations to prevent radio interference are discussed. In principle, the equipment should be screened by the manufacturers but this may be very expensive. Very often the rooms in which high-output high-frequency generators are installed are screened. Various disadvantages of this procedure are mentioned. Screening of individual units is then considered and it too has disadvantages. The best solution of the problem is to combine several methods of interference suppression according to the particular circumstances. To simplify the suppression of radio interference from industrial high-frequency equipment,

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The Frequency Range for High-Frequency Heating Installations

it would be advisable to allocate frequency bands to such equipment and to permit some relaxation of interference levels in these bands. It is recommended that surface-hardening equipment should use the range 65 - 74 kc/s. The third harmonic of this frequency range is 195 - 220 kc/s, which is already common in industry and should continue to be used. The frequency range of 6.5 ± 10% M/c/s is recommended for valve-generator installations for melting semiconductors. For other applications frequencies ranging from 13 ± 5% to 39 ± 2.5% Mc/s are suggested. The frequencies recommended are all harmonics of the basic frequency 6.5 Mc/s. The use of high-frequency equipment is extending. Unless frequency bands are allocated to such equipment and higher interference levels are permitted in these bands, the situation will soon become impossible.

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8(3)

AUTHORS: Donskoy, A. V., Doctor of Technical Sciences, SOV/105-59-7-10/30
Ivenskiy, G. V., Candidate of Technical Sciences, Borok, A. M., Engineer

TITLE: Ion Frequency Converters for Induction Heating Installations (Ionnyye preobrazovateli chastoty dlya ustanovok induktsionnogo nagreva)

PERIODICAL: Elektrichestvo, 1959, Nr 7, pp 41 - 45 (USSR)

ABSTRACT: The USSR industry at present produces large thyratrons of the TRI-15/15-type within a sufficiently short time for the re-establishment of the controllability of the grid. Investigations show that they operate with sufficient reliability in frequency converters of 50/2500 cycles. The wiring diagrams of these converters are given. As the basic wiring diagrams of similar converters have already been dealt with by the papers of references 1 and 2, the auxiliary circuits are in this case mainly investigated. Figure 1 shows the wiring of an ion frequency converter of 50/2500 cycles and 60-80 kw with a direct current term, which is described. It has been used for the melting of metal since July 1957 at the Laboratoriya elektrotermicheskikh ustanovok LKI im. Kalinina (Laboratory for Electrothermal Installations at the

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LPI im. Kalinina (Leningrad Polytechnic Institute imeni Kalinin). The rectifier of this converter is a three-phase single-cycle rectifier with 3 valves and one converter. The inverter is constructed as a single-phase single-cycle inverter with 2 valves and 1 converter. It is shown that an inverter for 2500 cycles embodied within the thyratron mentioned must necessarily be a single-cycle inverter. Regulation of the initial output P_k is brought about by variation 1) of the capacity of the capacitor C_k, 2) of the phase shift angle φ between the grid- and anode voltages of the thyratrons of the inverter group, and 3) of the economy transformer coupling of the load circuit $L_k C_k$ with the inverter-transformer.

The experimentally obtained characteristics of the converter corresponding to these three kinds of regulation are shown by figure 2. The disadvantage of the 1. and 2. method is the stepped regulation. Apart from the circuit shown by figure 1, where one valve group is used only for rectification and the other only for inverting the current, also ionic converters with a direct current element (Refs 1, 2) may be used in electrothermal installations. In this case the same valves are used for rectification and inversion. Such a converter, consisting of a three-phase one-cycle rectifier

and a single-phase one-cycle inverter with 60-80 kw is shown by figure 4. This inverter was investigated in the above laboratory, where it was used for a long period. The life of the thyratrons TRI-15/15 of the converter group is, as shown by experience, about 800 - 900 hours. There are 5 figures and 5 Soviet references.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. Kalinina (Leningrad Polytechnic Institute imeni Kalinin)

SUBMITTED: May 16, 1958

DONSKOY, Aleksandr Vasil'yevich, prof., doktor tekhn.nauk; MONDRUS, D.B., kand.tekhn.nauk, nauchnyy red.; VOROB'YEV, G.S., red.izd-va; GURDZHIYEVA, A.M., tekhn.red.

[High-frequency electrothermia] Vysokochastotnaia elektrotermiia. Leningrad, Ob-vo po rasprostraneniiu polit. i nauchn.znanii RSFSR, 1960. 41 p. (MIRA 13:8)
(Electrotherapeutics)

SOV/105-60-1-12/25

8(3)

AUTHORS: Artym, A. D., Candidate of Technical Sciences,
Donskoy, A. V., Doctor of Technical Sciences

TITLE: Generating Damped High-frequency Oscillations by Means of Controlled Ionic Overvoltage Arresters

PERIODICAL: Elektrichestvo, 1960, Nr 1, pp 59-63 (USSR)

ABSTRACT: The principles for the generation of damped oscillations in circuits with controlled ionic overvoltage arresters, the deionization time of which is much longer than the period of the generated oscillations, are shown here. Circuits of generators and the optimum conditions of their parameters are investigated. The latter warrant the maximum output at a predetermined current impulse and the existing electric strength of the discharger. The positive properties of controlled ionic overvoltage arresters are: the ability of letting pass large impulse currents, the high electric strength and the negligible voltage drop at the electrodes during operation. This permits under otherwise equal conditions to commutate currents which are a multiple of those obtained in valve circuits. The ionic overvoltage arresters in particular can achieve a strong effect at an impulse excitation

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of the damped oscillations. The simplest wiring diagram of an impulse excitation is given in figure 1 and explained. The basic problem consists in creating conditions (independent of the frequency of the generated oscillations) at which the voltage at the discharger-anode remains negative sufficiently long, whilst the rate at which the positive voltage increases, remains sufficiently small. The simplest circuit scheme which warrants these conditions is shown in figure 3. The shortcomings of this circuit scheme are the necessity of selecting a much higher frequency of the discharger-circuit than that of the generated oscillations, as well as the necessity of maintaining the condition $C_2 \gg C_1$.- Based on the general investigation mentioned here it is shown that the shortcomings can be eliminated considerably. The circuit scheme shown in figure 5 is proposed as one of the possible circuit variants for it and explained. All basic theses of the paper under review were checked on the simulators of the induction heating installation in the research laboratories of the electrothermal plants of the Leningradskiy politekhnicheskiy institut im. Kalinina (Leningrad Polytechnic

Generating Damped High-frequency Oscillations by Means of Controlled Ionic Overvoltage Arresters SOV/105-60-1-12/25

Institute imeni Kalinin) and the OKB elektrotermicheskogo oborudovaniya Lensovnarkhoza (Experimental Design Office for the Electrothermal Equipment of the Leningrad Sovnarkhoz). The results obtained thereby agree with the computed data. There are 8 figures and 4 Soviet references.

SUBMITTED: December 24, 1958

Card 3/3

DONSKOY, Aleksandr Vasil'yevich, doktor tekhn.nauk, prof.; IVENSKIY, Grigoriy Vasil'yevich, kand.tekhn.nauk

Autonomous parallel inverter with doubled frequency output. Izv. vys. ucheb. zav.; elektromekh. 3 no.3:125-139 '60. (MIRA 13:10)

1. Kafedra elektrifikatsii promyshlennykh predpriyatiy i ustanovok Leningradskogo politekhnicheskogo instituta (for Donskoy).
2. Vedushchiy inzhener Osobogo konstruktorskogo byuro elektrotermicheskogo oborudovaniya Leningradskogo sovnarkhoza (for Ivenskiy).
(Pulse techniques (Electronics))

DONSKOY, Aleksandr Vasil'yevich, doktor tekhn. nauk, prof.; LEYBIN, Yuriy Veniaminovich, inzh.; DELONE, N.N., red.; DUBROVSKIY, Ye.V., red.; SAVCHENKO, Ye.V., tekhn. red.

[High-frequency currents] Toki vysokoi chistoty. Moskva, Izd-vo "Znanie," 1961. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.4, Tekhnika, no.20) (MIRA 14:12)

(Electric currents, Alternating)

37961

S/137/62/000/005/017/150
A006/A101

1 1710

AUTHORS: Donskoy, A. V., Ivenskiy, G. V.

TITLE: Experimental series of electric melting units with thyratron frequency changers for 2,500-cycle frequency

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 51, abstract 5V304 (V sb. "Vysokoohastotn. elektrotermich. ustanovki", Moscow-Leningrad, Gosenergoizdat, 1961, 23-40)

TEXT: High efficiency, low idle-run power, and a number of other advantages distinguish positively ion frequency changers from other converter types employed in electrothermics. In 1955, the Central Designing Office for Ultrasonic and High-Frequency Units (TsKB UVU) and the Leningrad Polytechnic Institute imeni M. I. Kalinin (LPI) started investigations on the possibility of designing new medium-power (60 - 80 kw) ionic frequency changers for 2,500 cycles. The investigations have shown that domestic TP1-6/15 (TR1-6/15) and TPI-15/15 (TRI-15/15) type thyratrons can operate on the frequency indicated. Experimental semi-industrial electric melting units were developed with thyratron frequency changers with a distinctly marked d-c link. The latest unit is used at the LPI

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Experimental series of electric melting ...

from 1957 for the production of magnetic alloys. Positive results in operating this unit made it possible to develop at the TsKB UVU a series of electric melting units with TП -62 (TP-62) and TП -162 (TP-162) type thyratron frequency changers. In 1959, the Leningrad Plant of High-Frequency Units assimilated series production of TP-62 units. In 1962, a TP-162 type unit was produced and is now being tested for industrial use. Ionic frequency changers have in both units a clearly marked d-c link and consist of a three-phase single-cycle rectifier and a single-phase, single-cycle, self-excited inverter. Voltage at the rectifier output (in the inverter circuit) is 3 kv. The basic differences between TP-162 and TP-62 are: 1. In PT-62 both the rectifier and the inverter are assembled on TRI-15/15 type thyratrons. In TP-162 the rectifier is assembled on three TRI-40(15)type thyratrons and the inverter on four TRI-15/15 type thyratrons. 2. TR-162 is equipped with two melting furnaces. 3. In TP-162 there is a possibility of changing the coefficient of autotransformation on the furnace k_T, to regulate the output power. Therefore the rated furnace voltage is almost twice as high as the rated voltage of the secondary winding of the inverter transformer, and amounts to 1,500 v. Unlike as in PT-62, there is no possibility of changing the transformation coefficient of the inverter transformer k_T. The authors mention some other distinuishing features of the units, and

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present electric circuit diagrams for both units, parameters of the equipment, and operational characteristics of a parallel self-excited inverter. There are 12 references.

D. Kashayeva

[Abstracter's note: Complete translation]

Card 3/3

DONSKOY, Aleksandr Vasil'yevich; IVENSKIY, Grigoriy Vasil'yevich; MONDRUS, D.B., red.; FRENKEL', E.P., izd.red.; BELOGUROVA, I.A., tekhn.red.

[New induction heating systems with ionic frequency converters] Novye elektrotermicheskie ustanovki s ionnymi preobrazovateliami chastoty. Leningrad, 1961. 39 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Elektricheskie metody obrabotki metallov, no.1). (MIRA 14:6)

(Induction heating)

S/196/62/000/010/028/035
E194/E155

AUTHORS: Donskoy, A.V., and Overskiy, L.G.

TITLE: An experimental electrical smelting equipment with an electronic invertor of 30 kW, 5 - 10 kc/s

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.10, 1962, 15, abstract 10 K78. (In the Symposium 'Vysokochastotn. elektrotermich. ustanovki' (High Frequency Electro-thermal Installations), M.-L., Gosenergoizdat, 1961, 55-62).

TEXT: A frequency of 5 - 10 kc/s is often required to supply coreless induction furnaces so that the electrical efficiency of the furnace is high even when the charge consists of small pieces and electro-magnetic stirring of the liquid metal is quite good. Such a furnace may be supplied by an invertor. Calculation of the electrical parameters of a 30 kW invertor based on two tubes type ГУ-10А (GU-10A) is given, and also its schematic circuit. Performance curves are given for various conditions (furnace power, rectifier output,

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furnace-circuit and rectifier currents, circuit voltage, frequency and tube efficiency) as functions of furnace circuit capacitance and furnace auto-transformer ratio. The invertor may be used to supply loads with a wide range of parameters.

[Abstractor's note: Complete translation.]

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DONSKOY, Aleksandr Vasil'yevich; KULYASHOV, Sergey Mikhaylovich; KRYLOV, V.N., doktor tekhn. nauk, retsenzent; SOKOLOV, A.N., kand. tekhn. nauk, red.; ZHITNIKOVA, O.S., tekhn. red.

[Electrothermics] Elektrotermiia. Moskva, Gos. energ. izd-vo, 1961. 311 p. (MIRA 15:2)
(Electric furnaces) (Induction heating)

GUBENKO, T.P.; DEVYATKOV, N.D.; DOMANSKIY, B.I.; DONSKOY, A.V.; YEFREMOV, I.S.; ZHEZHERIN, R.P.; KAGANOV, I.L.; MANDRUS, D.B.; NETUSHIL, A.V.; PODGURSKIY, Ye.L.; ROZENFEL'D, V.Ye.; SVENCHANSKIY, A.D.; CHUKAYEV, D.S.; SHLYAPOSHNIKOV, B.M.

Professor G.I. Babat; obituary. Elektrichestvo no.1:94 Ja '61. (MIRA 14:4)

(Babat, Georgii Il'ich, 1911-1961)

DONSKOY, Aleksandr Vasil'yevich; BASHENKO, Vsevolod Vladimirovich; BORISOV, A.Ya., red.; VASIL'YEV, Yu.A., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Industrial application of electron-beam heating; transcript of a lecture] Primenenie elektronno-luchevogo nagreva v promyshlennosti; stenogramma lektsii. Leningrad, 1962. 32 p. (MIRA 15:9)

(Electron beams) (Metallurgy)

ARONOV, L.I., prof.; DONSKOY, A.V., prof., doktor tekhn. nauk; SIRUNSKIY, B.M., inzh.; KIREYEV, M.I., inzh.; IGLITSYN, I.L., red.; BORUNOV, N.I., tekhn. red.

[Efficient use of electric power in electric furnaces] Ratsional'noe ispol'zovanie elektroenergii v elektricheskikh pechakh; sbornik statei. [By] L.I.Aronov i dr. Moskva, Gosenergoizdat, 1962. 279 p. (MIRA 15:9)

1. Moskovskiy energeticheskiy institut im. Molotova (for Aronov).
(Electric furnaces) (Electric power)

AKSEL'ROD, F.A., inzh.; ZAYTSEV, M.P., kand. tekhn. nauk; ZLOBIN, G.I., inzh.; KOCHERGIN, K.A., kand. tekhn. nauk; NEKRASOV, B.M., inzh.; SLIOZBERG, S.K., nauchnyy red.; DONSKOY, A.V., nauchnyy red.; DEMYANTSEVICH, V.P., nauchnyy red.; SARAFANOV, S.G., nauchnyy red.; BONDAROVSKAYA, G.V., red.; DORODNOVA, L.A., tekhn. red.; PERSON, M.N., tekhn. red.

[Resistance welding]Kontaktnaia svarka. [By] F.A.Aksel'rod i dr. Moskva, Proftekhizdat, 1962. 463 p. (MIRA 15:12)
(Electric welding)

S/105/62/000/007/003/004
E194/E455

AUTHORS: Donskoy, A.V., Doctor of Technical Sciences, Professor,
Ivenskiy, G.V., Candidate of Technical Sciences (Leningrad)

TITLE: Medium-frequency ionic generators for induction heating

PERIODICAL: Elektrichestvo, no.7, 1962, 45-50

TEXT: The output frequency of ionic generators is limited by the control-grid recovery time and may range from some hundreds to some thousands of cycles/sec, which is quite adequate for many metallurgical applications. The design and construction of such generators is reviewed. The parallel inverter type of circuit is commonest and when self-excited its performance depends mainly on the parameters of the phase-regulator and little on the Q-value of the load; in induction heating this is the particular advantage of the circuit over the parallel inverter with independent excitation, though independent excitation may be used to facilitate starting. The series/parallel inverter has a capacitor in series with the load which increases the blocking angle but unfortunately also increases the peak value of the anode

Medium-frequency ionic ...

voltage. Several variants of series-parallel inverter are described. The grid circuit design determines the deionization process, which usually imposes limitations on the output frequency; design features that can increase this frequency are reviewed. For example, while the inverse voltage is on the anode, the grid resistance may be shunted by a special electronic-impulse device, which permits the output frequency to be raised without also increasing the grid current. The frequency may be raised by a suitable choice of method of connecting the secondary of the grid transformer to the valves. The blocking angle may be increased artificially by connecting saturating chokes in series with the valves and RC circuits in parallel. Considerable increase of frequency is possible with multi-stage generators and frequency-doubling circuits are described. The operation of damped-wave impulse type are particularly suitable. Available valves and their design are described; the best existing types are TP1-6/15 (TR1-6/15) and TP1-15/15 (TR1-15/15). Their control grid recovery time is not greater than 50 microseconds and they have been used in prototype damped-wave impulse generators of

40 kW and 10 kc/s. Double-grid mercury thyratrons have been developed at the Leningradskiy elektrotekhnicheskiy institut im. Ul'yanova (Lenina) (Leningrad Electrical Engineering Institute imeni Ul'yanov (Lenin)). Hydrogen thyratrons have the best frequency characteristics but the permissible d.c. component of anode current is low and both the gas-filled and the hydrogen types have short life. Mercury ignitrons and excitrons look most promising in this respect and some recent designs are described. Although promising prototypes have been made, regular production of new valves is lagging and this hinders the development of induction heating. Westinghouse "Trinistors" are described. Semiconductor devices have little overload capacity and accordingly the associated circuitry is complicated by the need for protective devices. There are 6 figures.

SUBMITTED: February 8, 1962

Card 3/3

DONSKOY, A.V.

Fourth Conference on High Frequency Electrothermics.
Elektrichestvo no.2:92-93 F '62. (MIRA 15:2)
(Electric heating—Congresses)

DONSKOY, A.V., doktor tekhn.nauk; IVENSKIY, G.V., kand.tekhn.nauk

Characteristics of a parallel inverter with self-excitation and induction heating. Vest.elektroprom. 33 no.4:39-43 Ap '62. (MIRA 15:4)

(Electric current converters)

DONSKOY, A.V., doktor tekhn.nauk, prof. (Leningrad); IVENSKIY, G.V., kand.tekhn.nauk (Leningrad)

Ionic-tube generators with increased frequency for induction heating systems. Elektrichestvo no.7:45-50 Jl '62. (MIRA 15:7)
(Induction heating)
(Oscillators, Electric)

DONSKOY, A. V. (Leningrad)

"Thyratron-Generatoren zur Erzeugung gedampfter Schwingungen fur Induktionserwarmung."

report presented at the VII Intl. Colloq Ilmenau Inst. of Technology, Ilmenau GDR, 22-26 Oct 1962

DONSKOY, A.V.; ZHERDEV, I.T.; ZOTOV, V.P.; MURATOV, S.M.; NOVIKOV, O.Ya.; OKOROKOV, N.V.; PATON, B.Ye.; SISOYAN, G.A.; SVENCHANSKIY, A.D.

Stepan Ivanovich Tel'nyi; obituary. Elektrichestvo no.1:93 Ja '63. (MIRA 16:2)

(Tel'nyi, Stepan Ivanovich, 1890-1962)

SMIRNOV, V.S.; KOSTENKO, M.P.; NEYMAN, L.R.; SHRAMKOV, Ye.G.; KOSTENKO, M.V.; KAMENSKIY, M.D.; ZAYTSEV, I.A.; KUKEKOV, G.A.; DONSKOY, A.V.

A.M.Zalesskii on his 70th birthday. Elektrichestvo no.2:94 F '63. (MIRA 16:5)

(Zalesskii, Aleksandr Mikhailovich, 1892-)

DEMCHUK, Ivan Semenovich; BOGACHEV, I.F., inzh., retsenzent; DONSKOY, A.V., nauchnyy red.; YEROMITSKAYA, Ye.Ye., red.; CHISTYAKOVA, R.K., tekhn. red.

[Induction heating of metals in shipbuilding] Induktsionnyi nagrev metallov v sudostroenii. Leningrad, Sudpromgiz, 1963. 129 p. (MIRA 16:6)
(Shipfitting) (Induction heating)

DONSKOY, A.V., doktor tekhn.nauk; RATNIKOV, D.G., inzh.

Electric parameters and power characteristics induction heaters for heating hollow cylinders. Elektrichestvo no.2:27-30 F '63. (MIRA 16:5)

1. Leningradskiy politekhnicheskiy institut.
(Induction heating)

DONSKOY, A.V., doktor tekhn. nauk

Basic objectives in further development of induction heating. Vest. elektroprom. 34 no.7:40-43 Jl '63. (MIRA 16:8)

DONSKOY, A.V., doktor tekhn. nauk; FIRSOV, P.V., inzh.; PRUSS-ZHUKOVSKAYA, I.M., inzh.

Induction heating of the oil lines of hydraulic lifts. Elek. sta. 34 no.10:48-50 O '63. (MIRA 16:12)

DONSKOY, Aleksandr Vasil'yevich; LUTSKER, Il'ya Shulimovich; ZVYAGIN, I.Ye., red.

[Automation of low-temperature electric-heating systems] Avtomatizatsiia nizkotemperaturnykh elektronagrevatel'nykh ustroistv. Leningrad, 1964. 13 p. (MIRA 17:12)

BALYKERDIN, Leonid Leonidovich; DONSKOY, Aleksandr Vasil'yevich; PINTSOV, Aron Moiseyevich; [illegible] Aleksandrovich; KAYCHIK, Yu.S., red.

[Use of nonregulated semiconductor rectifiers in industrial and transport systems] Primenenie neupravliaemykh poluprovodnikovykh vypriamitelei v promyshlennykh i transportnykh ustanovkakh. Leningrad, 1964. 31 p. (MIRA 17:11)

DONSKOY, Aleksandr Vasil'yevich; IVENSKIY, Grigoriy Vasil'yevich; POSSE, A.V., kand. tekhn. nauk, retsenzent; MONDRUS, D.B., kand. tekhn. nauk, retsenzent; SORODINOV, V.V., red.

[Electrothermal systems with electronic converters with increased frequency] Elektrotermicheskie ustanovki s ionnymi preobrazovateliami povyshennoi chastoty. Moskva, Izd-vo "Energiia," 1964. 209 p. (MIRA 17:6)

DONSKOY, Aleksandr Vasil'yevich, dr. tekhn. nauk, prof.; FOMIN, Anatoliy Andreyevich, inzh.

Calculation of parameters and pondermotive forces of a system of turns inductively coupled with a sphere. Izv. vys. ucheb. zav. elektromekh. 7 no.4:511-514 '64 (MIRA 17:7)

1. Kafedra elektrooborudovaniya promyshlennosti predpriyatiy Leningradskogo politekhnicheskogo instituta (for Donskoy)
2. Leningradskiy institut tokov vysokoy chastoty (for Fomin).

DONSKOY, A.V., doktor tekhn.nauk; VLASOV, Yu.S., inzh.; LUTSKER, I.Sh., inzh.

Thermistorized multipoint temperature signaling system.. Mekh.i avtom.proizv. 18 no.3:34 Mr '64. (MIRA 17:4)

DONSKOY, A.V., doktor tekhn. nauk; IVENSKIY, G.V., kand. tekhn. nauk

Transistor wattmeter for high-frequency systems. Elektrotekhnika 35 no.7:44-46 '64. (MIRA 17:11)

L 41490-65 EWT(m)/T/EWP(t)/EWP(b)

ACCESSION NR: AP5007981 S/0104/64/000/010/0031/0034

AUTHOR: Donskoy, A. V. (Doctor of technical sciences); Firsov, P. V. (Engineer)

TITLE: Induction heating of hydraulic-engineering metallic structures

SOURCE: Elektricheskiye stantsii, no. 10, 1964, 31-34

TOPIC TAGS: hydraulic engineering, heating, hydraulic equipment

Abstract: The construction of large hydro-electric stations on the Volga, Dnepr, Kama, Yenisey, Angara and other rivers of the European part of the SSSR and of Siberia allowed the reconstruction and significant expansion of the navigation period and, consequently, a continuous operation of gates during the late fall period. Induction heating of various parts of the hydraulic-engineering metallic structures seemed to represent an ideal solution for the maintainance of continuous trouble-free operation of the different movable parts. The laboratory for electro-thermal devices of the Leningrad Industrial Institute im. M. I. Kalinin carried out an extensive study of the induction heating of more than 30 different metallic structures. Among these were two experimental models of retaining grids for water-carrying channels of hydraulic turbines. The article

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L 41490-65
ACCESSION NR: AP5007961

presents the results of the abovementioned investigations which can serve as guidelines for practical design.Orig. art. has 3 figures and 5 formulas.

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: IE
NO REF SOV: 000	OTHER: 000	JPRS

Card 2/2 mL

DONSKOY, A.V., doktor tekhn.nauk; VOLODIN, V.V., inzh.

Comparison of the circuit diagrams of induction heaters.
Elektrotekhnika 35 no.12:40-43 D '64.
(MIRA 18:4)

BASHARIN, A.V.; BELYAKOV, V.A.; DONSKOY, A.V.; NEYMAN, L.R.; RAVDONIK, V.S.; RENNE, V.T.; RUZIN, Ya.L.; SABININ, Yu.A.; USOV, S.V.

Vasilii Gavrilovich Drannikov, 1904 -; on his 60th birthday and the 35th anniversary of his theoretical and educational work. Elektrichestvo no.10:87 O '64. (MIRA 17:12)

L 59552-65 EWT(m)/T/EWP(t)/ERP(b) JD

ACCESSION NR: AR5012842 UR/0137/65/000/003/B010/B010

SOURCE: Ref. zh. Metallurgiya, Abs. 3B67

25
B

AUTHOR: Donskoy, A. V.; Bashenko, V. V.

TITLE: Electron radiation vacuum furnaces

CITED SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 38, 1964, 30-31

TOPIC TAGS: vacuum furnace, vacuum furnace development, electron radiation, resistance furnace, tungsten heating element, electronic furnace, electric potential

TRANSLATION: The article describes the working principle and the construction of a laboratory model of an electron radiation furnace designed for heating conducting objects in a vacuum of 1×10^{-4} mm Hg and higher. The electron radiation furnace is a combination of a high temperature resistance furnace with a tungsten heating element, and an electronic furnace. The potential difference which drives the electrons is set up between the heating element as the cathode and the object

Card 1/2

L 59552-65
ACCESSION NR: AR5012842

being heated as the anode. The heating temperature of the object in the electron radiation furnace can approach the temperature of the heating element. The electron radiation furnace operates at a relatively low driving potential (from a few hundred volts to several kilovolts). The heating process in the electron radiation furnace is intensified by an increase in the concentration of energy expended in the object being heated. Use of the electron radiation furnace permits increasing furnace efficiency and capacity. Orig. art. has: 3 figures (From R. zh. Elektrolekhimka).

SUB CODE: MM ENCL: 00

Card 2/2

L 58371-65 EWT(m)/EWP(c)/EWP(i)/EWP(t)/EWP(b) Pr-4 JD/JW
ACCESSION NR: AR5013005 UR/0137/65/000/004/B021/B021
662:187.536.52

35
B

SOURCE: Ref. zh. Metallurgiya, Abs. 4B134

AUTHOR: Bashenko, V. V.; Donskoy, A. V.; Lutsker, I. Sh.

TITLE: Vacuum temperature inspection during vaporization

CITED SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 40, 1964, 9-10

TOPIC TAGS: vacuum metallurgy, temperature measurement, vacuum vapor deposition, radiation pyrometer

[illegible] Electrothermal Equipment Laboratory of the Leningrad Polytechnic [illegible] metal or alloy [illegible] thermal. [illegible] vaporization conditions. [illegible] was experimentally found that the [illegible] reading does [illegible] error becomes opaque. [illegible] vaporization and also permits [illegible] of the heat-

Card 1/2

L 59371-65

ACCESSION NR: AR5013005

0

ing process, which is important in laboratory investigations. A radiation pyrometer which can be used for checking temperature during vacuum vaporization is also considered. The experimental error of the radiation pyrometer, used in conjunction with an EPP-0.9 electronic potentiometer, does not exceed ±1%. V. Pryanikova.

SUB CODE: MM, TD ENCL: 00

Card 2/2

L 56085-65 EWT(m)/T/EWP(t)/EWP(b) JD

ACCESSION NR: AR5015146 UR/0137/65/000/005/B010/B010

SOURCE: Ref. zh. Metallurgiya, Abs. 5B57

AUTHOR: Donskoy, A. V.; Smorodinov, V. V.

13
B

TITLE: Use of damped oscillations in electrothermics

CITED SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 42, 1964, 34-36

TOPIC TAGS: electrothermics, oscillation, damping, damped oscillation, induction heating, high frequency oscillation, impact excitation generator, ultrasonic process, electroerosion process

TRANSLATION: In induction heating, from the viewpoint of transfer of energy to the object being heated, damped oscillations do not differ essentially from sustained. A scheme of a high frequency damped oscillation generator using ionic control instruments is described. This is the most economical means of producing high frequency damped oscillations. Similar designs for impact excitation generators are limited to a range of frequencies up to [illegible] kilocycles. The latest improvements of these generators and the use of hydrogen thyratrons make it possible to obtain frequencies up to megacycle units. The use of damped

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L 56085-65
ACCESSION NR: AR5015146

oscillations is also expedient for other industrial processes, for example, ultrasonic and electroerosion processing. 3 figures, 7 literature titles. (From R. Zh. Elektrotekhnika)

SUB CODE: EC, MM ENCL: 00

Card 2/2

DONSKOY, A.V., doktor tekhn. nauk, prof.; SIMONOVNOV, V.V., inzh.

Operating mode of a dampened oscillations generator with induction heating. Elektrichestvo no.1:62-65 Ja '65. (MIRA 18:7)

1. Leningradskiy politekhnicheskiy institut im. M.I. Kalinina.

DONSKOY, A.V.; VOLODIN, V.V.

Using silicon diodes for the overload protection of frequency meters. Izv. vys. ucheb. zav.; prib. 8 no.2:38-44 '65.
(MIRA 18:5)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina. Rekomendovana kafedroy elektroizmeritel'noy tekhniki.

DONSKOY, A.V., doktor tekhn.nauk, prof.; VOLODIN, V.V., inzh.

Power relationships in an oscillatory system with transformer coupling of an inductive load. Izv.vys.ucheb.zav.; energ. 8 no.3:23-30 Mr '65. (MIRA 18:4)

1. Leningradskiy politekhnicheskiy institut imeni M.I.Kalinina. Predstavlena kafedroy elektroprivoda i avtomatizatsii promyshlennykh ustanovok.

L 61838-65 EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4 JD/HM

ACCESSION NR: AT5014466 UR/2563/65/000/245/0037/0090 28 27 B+1

AUTHOR: Bashenko, V. V.; Donskoy, A. V.

TITLE: Efficiency of electron beams during the welding of metals

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 245, 1965, Svarochnoye proizvodstvo (Welding production), 87-90

TOPIC TAGS: electron beam welding, welding beam reflectance, welding efficiency

ABSTRACT: During electron beam welding, a part of the primary energy goes into secondary effects such as secondary electron emission and x-ray production. On the basis of direct measurements by means of spherical condensers with antidynatron grids, the authors determined the fraction of energy carried away by electrons emitted from the surface of the welded object. The results are shown in Table 1 of the Enclosure. For materials whose atomic number is in the range 15-40, this portion represents 10-15% of the primary energy and changes insignificantly during the melting of the metal. Orig. art. has: 2 formulas, 1 figure, and 1 table.

Card 1/3

L 61838-65

ACCESSION NR: AT5014466

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute)

SUBMITTED: 00 ENCL: 01 SUB CODE: MM

NO REF SOV 000 OTHER: 000

Card 2/3

L 61838-65

ACCESSION NR: AT5014466 ENCLOSURE: 01

Metal	Melting point, °K	Metal			
		Solid	Liquid	Solid	Liquid
Silicon	1700	0,267	0,224	87%	90,1%
Titanium	1980	0,292	0,303	84,6%	88,5%
Vanadium	2190	0,275	0,283	86,8%	85,1%
Iron	1920	0,3	0,31	84,7%	85,5%
Zirconium	2125	0,34	0,354	86,8%	85,5%

Table 1. Dependence of reflectance γ and efficiency $\mathcal{H}$ on the state of the metal.

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L 52252-65

ACCESSION NR: AP5010655 UR/0119/65/000/004/0026/0027 4/ B

AUTHOR: Donskoy, A. V. (Doctor of technical sciences, Professor); Lutskor, I. Sh. (Engineer)

TITLE: Efficient design of the differential thermoelectric pile

SOURCE: Priborostroyeniye, no. 4, 1965, 26-27

TOPIC TAGS: thermoelectric pile, differential thermoelectric pile

ABSTRACT: The development is reported of a small-size (56x22 mm), low-inertia differential thermoelectric pile for measuring the temperature difference (1--2°) between two streams of a fluid, without distorting the streams. The pile comprises 100 chromel-copel (nickel-chromium, copper-nickel) thermocouples with their electrodes welded to a silver-plated 8x2x0.1-mm copper plate. The measurement (0--2°) error is claimed to be ± 1%; inertia, a fraction of one second. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EE.

Card 1/1 2nd NO REF SOV: 002 OTHER: 000

DONSKOY, A.V., prof.; FOMIN, A.A., inzh.

Electrical parameters of electromagnetic systems during the induction heating of a sphere. Elektrichestvo no.4:68-70 Ap '65. (MIRA 18:5)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.

L 59722-65 EWT(d)/EWT(l)/EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(h)
Pz-6/Pr-4/Peb IJP(c) JD/AT

ACCESSION NR: AM5016674 BOOK EXPLOITATION S/

35
34
B+1

Bashenko, Vsevolod Vladimirovich; Donskoy, Aleksandr Vasil'yevich; Ratnikov, Dmitriy Georgiyevich

Electrothermics of zone melting of metals and semiconductors (Elektrotermiya zonnoy plavki metallov i poluprovodnikov) Moscow-Leningrad, Izd-vo "Energiya", 1965. 79 p. illus., biblio. 3500 copies printed. Editor: A. B. Kuvaldin; Technical editor: N. A. Bul'dyayev

Series note: Biblioteka elektrotermista, vyp. 21

TOPIC TAGS: electric heating, electrothermics, ultrapure material, zone melting

PURPOSE AND COVERAGE: This brochure was intended for engineers and technicians in design, production, and research organizations working in the field of the organization and establishment of various techniques of zone melting with the application of electric heating. Much of the information presented will be found useful to students specializing in electric power and physical metallurgy, studying electrical-engineering installations and processes. The physical-metallurgy bases of the zone melting of metals and semiconductors, used to obtain ultrapure materials,

Card 1/2

AM5016674

are analyzed.

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SUB CODE: MM SUBMITTED: 09Mar65 NR REF SOV: 30

OTHER: 71 DATE ACC: 08Jul65

Card 2/2 ddp

DONSKOY, A.V., doktor tekhn.nauk; VOLODIN, V.V., inzh.

Calculation of the oscillatory system of a shortwave generator for the power supply of high-frequency plasma. Elektrotekhnika 36 no.11:47-48 N '65. (MIRA 18:11)

L 00187-66 EWT(l)/EWT(m)/EPF(n)-2/EWG(m)/EPA(w)-2/EWP(t)/EWP(b) IJP(c) JD/JG/AT

ACCESSION NR: AP5020566 UR/0294/65/003/004/0627/0631

66.065

AUTHOR: Douskoy, A. V.; Dresvin, S. V.; Voronin, K. K.; Vol'nets, F. K.

TITLE: Some special characteristics of processes for growing high melting crystals in high frequency plasma burners

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 4, 1965, 627-631

TOPIC TAGS: plasma burner, crystal, plasma physics, argon

ABSTRACT: The article advances construction details of a high frequency burner which assures long term operation at sufficiently high values of the discharge power. The simplest type of induction plasma burner consists of an inductive discharge without electrodes in a quartz tube. By blowing gas through the tube, a plasma flame is formed at the end of the tube which resembles an ordinary chemical flame. Feed source for the burner is a lamp generator with a power of 5-30 kilowatts and a frequency of 1-60 megacycles. If no measures were taken for heat shielding the quartz walls of the tube against the high temperatures of the

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L 00487-66

ACCESSION NR: AP5020566 3

plasma (9000-10,500 K), the walls would melt within 20-30 sec. Three shielding methods are outlined: 1) burner with forced gas cooling of the tube, 2) burner with water cooling, and 3) burner with cooling coils. To obtain crystals of high melting materials in a high frequency plasma burner with a metal water cooled chamber, the standard powder for a gas flame burner was used. Crystal growth was 13-15 mm/hour. A long focus lens was used for observation of the crystal growth. Addition of a small percent of air in the argon fed to the burner improves the heat characteristics of the burner. Orig. art. has: 3 figures

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute)

SUBMITTED: 25Jun64 ENCL: 00 SUB CODE: SS, ME

NR REF SOV: 002 OTHER: 003

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L 3609-66 EWT(l)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT
ACCESSION NR: AP5024044 UR/0057/65/035/009/1646/1651
533.9.07

AUTHOR: Dresvin, S. V.; Donskoy, A.V.; Gol'dfarb, V.M.

TITLE: Determination of the conductivity in a high frequency induction discharge in argon by calorimetric and spectrometric methods

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1646-1651

TOPIC TAGS: discharge plasma, argon, high frequency, plasma conductivity, plasma temperature, optic method, calorimetry

ABSTRACT: The authors have measured the conductivity of a high frequency discharge argon plasma by calorimetric and optical methods in order to compare the two techniques. The plasma was produced in a 3 cm diameter quartz tube with water-cooled walls containing flowing argon at atmospheric pressure and located on the axis of a 4.6 cm diameter 4-turn coil connected to a 26 Mc 10 kW oscillator. The conductivity of the plasma is calculated from the current and voltage in the exciting coil and the heat evolved, with the aid of a rather involved theory, the previous derivation of which by Ye.A.Bamberg and S.V.Dresvin (ZhTF, 33, 65, 1963) contains some errors that are corrected in the present paper. The absolute intensity of the radiation from the arc between 4400 and 4700 Å was determined by photograph-

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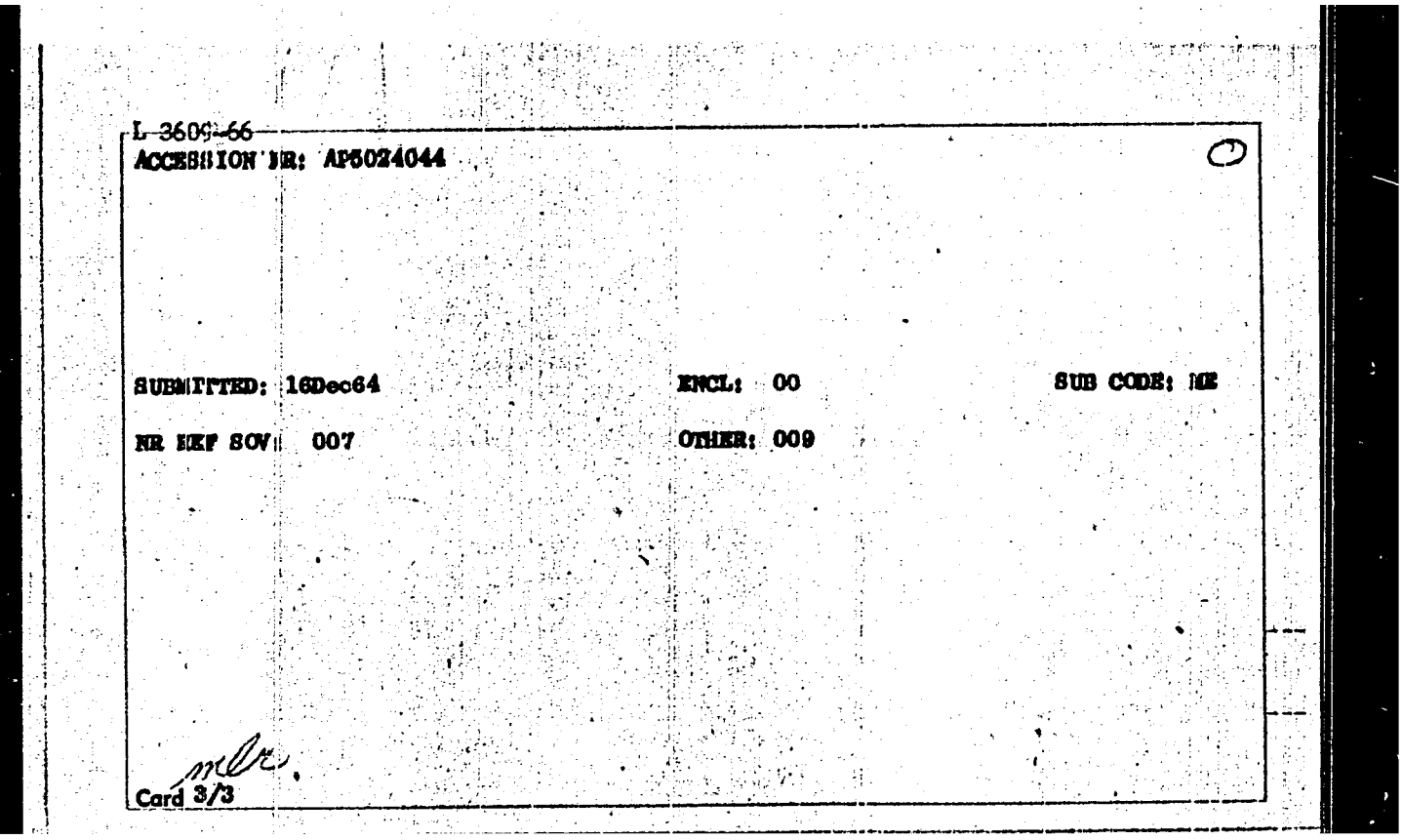
L 3609-66

ACCESSION NR: AP5024044

ing the arc through suitable filters, and the absolute intensity of Ar I 4510, the Doppler broadening of Hβ, and the intensity of the recombination continuum near 4500 Å were determined with a type ISP-51 spectrometer. With the optical measurements it was possible to estimate the temperature, electron density, and conductivity in different parts of the plasma. The conductivities measured optically were some 800 % greater than those measured calorimetrically. This discrepancy is ascribed to the variation of the conductivity between different parts of the plasma. The conductivity distribution determined optically is discussed at some length, and an "effective" conductivity that one should expect to measure calorimetrically is calculated from the optical measurements. This optically determined effective conductivity is only some 275 % greater than the calorimetrically measured value. The calorimetric method for measuring plasma conductivities is subject to large absolute errors (associated largely with complex and unknown features of the discharge geometry) which can easily exceed 100 %, but it is capable of good accuracy (5 %) in relative measurements. "The authors express their gratitude to D.G.Ratnikov for valuable discussions." Orig. art. has: 14 formulas, 5 figures, and 2 tables.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M.I.Kalinina (Leningrad Polytechnic Institute)

Card 2/3



L 3609-66
ACCESSION NR: AP5024044

SUBMITTED: 16Dec64 ENCL: 00 SUB CODE: ME

NR REF SOV: 007 OTHER: 009

Card 3/3

BA. HENKO, V.V.; DONSKOY, A.V.

Efficiency of an electron beam in the welding of metals. Trudy LIP no.245:87-90 '65. (MIRA 18:8)

DONSKOY, A.V.; MATNIKOV, D.G.

Induction flash welding. Trudy LPI no.245:91-93 '65.
(MIRA 18:8)

DONSKOY, A.V.; SMORODINOV, V.V.

High-frequency welding of glass and metal parts with the use of damping oscillation generators. Trudy LPI no.245:94-97 '65. (MIRA 18:8)

BAMUNER, A.V.; DONSKOY, A.V., doktor tekhn. nauk, prof., retsenzent; FOGEL', A.A., kand. tekhn. nauk, red.

[Automatic control of high-frequency heating processes] Avtomaticheskoe regulirovanie protsessov vysokochastotnogo nagreva. Moskva, Mashinostroenie, 1965. 56 p. (Biblioteka vysokochastotnika-termista, no.17) (MIRA 18:8)

FOGEL', A.A.; DONSKOY, A.V., prof., doktor tekhn. nauk, retsenzent

[Industrial uses of high-frequency currents] Promyshlennoe primenenie tokov vysokoi chastoty. Izd.3., ispr. i dop. Moskva, Mashinostroenie, 1965. 76 p. (Biblioteckka vysokochastotnika-termista, no.1) (MIRA 18:8)

L 3514-66

AM5017972 BOOK EXPLOITATION UR/ 621.365:537—96 (03)

Donskiy, A. V., ed. (Doctor of Technical Sciences; Professor)

High-frequency electrothermics; a handbook (Vysokochastotnaya elektrotermiya; spravochnik.) Moscow, Izd-vo "Mashinostroyeniye", 1965. 564 p. illus., biblio. 5100 copies printed.

TOPIC TAGS: electrothermal process, high frequency electrothermal process, electrothermal unit, electrothermal equipment, induction heating, plasma, plasma torch heating, frequency converter, electron tube oscillator, electromagnetic field

PURPOSE AND COVERAGE: This handbook is intended for engineering personnel and students concerned with high-frequency electrothermal units used in various technological processes. Information on electrothermal processes and the absorption of electric power by heated materials in alternating electromagnetic fields of various frequency is presented. The basic design and operation of electrothermal units and recommendations for using them are given and the electrophysical properties of heated materials are described. The data presented may be helpful in selecting the type of high-frequency units which satisfies best the

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the specified technical requirements. In addition, the handbook outlines electric circuits for feeding and controlling of units, reviews methods of calculating individual elements of electrothermal equipment, and gives recommendations on the selection of materials used to build these units.

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Ch. XIII. Elements of Converter Designs (An. V. Donskoy, D. B. Mondrus and I. M. Solomakhin) -- 465

References -- 558

SUB CODE: MM, EE SUBMITTED: 16Feb65 NO REF SOV: 083

OTHER: 000

Card 4/4

GLUKHANOV, N.S.; DONSKOY, A.V., prof., doktor tekhn. nauk, retsenzent; FOGEL', A.A., kand. tekhn. nauk, red.

[Physical principles of high frequency heating] Fizicheskie osnovy vysokochastnogo nagreva. Moskva, Mashinostroenie, 1965. 78 p. (Bibliotechka vysokochastotnika-termista, no.2) (MIRA 18:10)

L 10229-66
ACC NR: AP6002410 SOURCE CODE: UR/0105/64/000/010/0087/0087

AUTHOR: Basharin, A. V.; Belyakov, V. A.; Donskoy, A. V.; Hayman, L. P.; Ravdonik, V. S.; Renne, V. T.; Rusin, Ya. L.; Shidnin, Yu. A.; Usov, S. V.

33
32
B

ORG: none

TITLE: Professor V. G. Drannikov (60th birthday and 35th anniversary of his scientific and pedagogical activity)

SOURCE: Elektrichestvo, no. 10, 1964, 87

TOPIC TAGS: electric engineering personnel, electric engineering

ABSTRACT: Vasiliy Gavrilovich Drannikov was born in Serpukhov on 30 June 1904 to a worker's family. He began as a textile worker at the "Proletariy" factory in 1920, transferring to the Textile Institute in the same year. In 1924 he was enrolled in the college of Electromechanics at the Leningrad Industrial Institute. In 1930 he became a candidate for an advanced degree and began his teaching career at the then newly organized Chair of "Elektroprivod" (Electric power drives). One of his first publications was the laboratory textbook "Opredeleniye poter'v transmissii" (Determination of transmission losses) in 1932. In 1931 he became an assistant and in 1934 a reader (docent) for the chair of "Promyshlennoye ispol'zovaniye elektricheskoy energii" (Industrial uses of electric power). At that time he

Card 1/2 UDC: 621.3(092)

L 10229-66
ACC NR: AP6002410

became the first in the USSR to lecture on the "use of ionic-electronic devices in electric power drives." In 1939 Drannikov defended his dissertation "Teoreticheskoye i eksperimental'noye issledovaniye nekotorykh skhem bystrogo vozbuzhdeniya generatora Leonarda" (Theoretical and experimental investigation of certain high-speed excitation circuits for a Leonard generator). During the war Drannikov was Chief Engineer at the Vologodskaya Oblast' Communal Economy Directorate in charge of electric power. Returning to Leningrad in 1944, he took an active part in reopening the Polytechnical Institute. From 1952 to 1955 he was abroad on teaching assignments. Since 1958 he has been dean of the Chair of "Elektroprivod i avtomatizatsiya promyshlennykh ustanovok" (Electric power driven and automation of industrial equipment). He has written 10 books, 12 texts, and many scientific papers on automation and electric drives. For his scientific and pedagogical activities he holds among other awards the "Znak pocheta" (Badge of Honor). Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none /

Card 2/2

E 11160-66

ACC NR: AP6000359 SOURCE CODE: UR/0286/65/000/021/0054/0054

AUTHORS: Donskoy, A. V.; Lutsker, I. Sh.

ORG: none

TITLE: Method of contactless recording. Class 42, No. 176085

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 54

TOPIC TAGS: recording equipment, electric discharge

ABSTRACT: This Author Certificate presents a method of contactless recording of the parameters of various processes on paper with recording fluid. The recording is accomplished by the creation of a pressure drop by electric discharges between electrodes for transferring the recording fluid onto the paper. To record processes on paper without loss of completeness, the electrodes are placed in the recording fluid (see Fig. 1). The recording fluid is transferred to the paper by the hydrodynamic shocks created by the discharges.

Card 1/2 UDC: 621.3.087.61.082.77

ACC NR: AP6000159

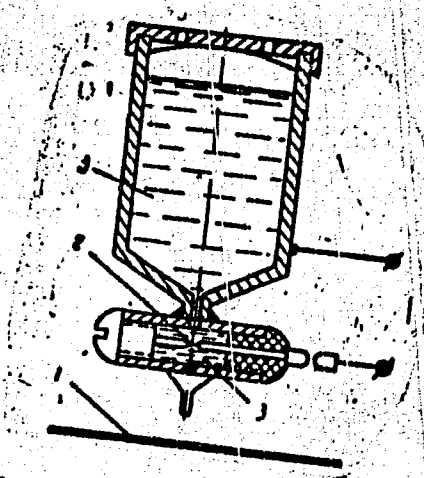

Fig. 1. 1 - Paper; 2 - electrodes; 3 - recording fluid.

Orig. art. has: 1 diagram.

SUB CODE: 14/ SUBM DATE: 17May63

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L 13695-66 EWT(m)/EWA(d)/EWP(r)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) JD/HM

ACC NR: AP6002530 (N) SOURCE CODE: UR/0286/65/000/023/0036/0036

INVENTOR: Donskoy, A. V.; Ratnikov, D. G.

ORG: none

TITLE: High-frequency inductor for metal welding. Class 21, No. 176645

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 36

TOPIC TAGS: metal, ~~active~~ metal welding, ~~metal welding~~, ~~high frequency welding~~, welding ~~inductor, high frequency inductor~~ equipment, welding technology

ABSTRACT: This Author Certificate introduces an inductor for metal welding with high-frequency currents. The inductor, which is made from electroconductive material, is put on the part to be welded. It has channels for cooling water and for shielding gas which is fed to the welding zone. For welding chemically active metals, the inductor is insulated inside with a thin layer of heat-resistant material making it possible to enclose tightly the welded parts in the inductor. A variant of the above inductor has been designed for welding complex-shaped parts. In this case the inductor is provided with a collar coated inside with a thin heat-resistant layer, with which the inductor is put on the welded part, and a housing, which envelops this collar. [ND]

SUB CODE: 13, 11/ SUBM DATE: 21Jan64/ ATD PRESS: 4185

Card 1/1

UDC: 621.791.77.037

L 11899-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m)/EWA(m)-2 IJP(c) AT
ACC NR: AP6001916 UR/0294/65/003/006/0922/0923

AUTHOR: Donskoy, A.V.; Dresvin, S.V.; Ratnikov, D.G.

ORG: Leningrad Polytechnic Institute im. M.I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: A high frequency induction discharge in a chamber with metallic water-cooled walls

SOURCE: Teplofizika vysokikh temperatur, v.3, no.6, 1965, 922-923

TOPIC TAGS: plasma generator, high frequency discharge, magnetic field

ABSTRACT: A new design makes possible the reliable creation of an induction discharge, without electrodes, with a power of tens of kilowatts at pressures from 10^{-2} mm Hg up to atmospheric pressure. If a hollow metallic cylinder is placed inside the inductor, and the wall thickness of the cylinder is much greater than the depth of penetration of the electromagnetic field into the metal, then the field inside the cylinder will practically be equal to zero. However, if a slot is cut in the cylinder, the electromagnetic energy will penetrate freely to the inside and an induction discharge can be created there. The induction discharge inside the cylinder is in the form of an annular induction current. The optimum number of slots was found to be from 8 to 10. The article shows

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a schematic of the equipment. A quartz or glass tube is inserted to prevent the flow of cold or hot gas through the slots. Measurements were made of the absolute intensity of the recombined argon continuum in the region of 4300-4700 Å, where the intensity depends only slightly on the wave length. In the tests, the flow rate of argon through the discharge was approximately 30 liters/min, the frequency of the generator was 17 megacycles, and the power of the discharge was approximately 4.5 kilowatts. A photograph shows an operating high frequency plasma burner with a water-cooled metallic chamber. In this case, the power of the burner was 7 kilowatts, the pressure was atmospheric, and the consumption of argon was 60 liters/min. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 11Dec64/ ORIG REF: 006/ OTH REF: 005

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[redacted]

VASIL'YEV, A.S.; DONSKOY, A.V., doktor tekhn. nauk, prof., retsenzent; FOGEL', A.A., kand. tekhn. nauk, red.

[Electron-tube oscillators for high-frequency heating] Lampovye generatory dlia vysokochastotnogo nagreva. Moskva, Mashinostroenie, 1965. 81 p. (Bibliotechka vysokochastotnika-termista, no.9) (MIRA 18:11)

SHAMOV, A.N.; DONSKOY, A.V., prof., doktor tekhn. nauk retsenzent;
FOGEL', A.A., kand. tekhn. nauk, red.

[Power supply of high-frequency heating systems from large electric generators] Pitanie vysokochastotnykh nagrovatel'nykh ustroistv ot mashinnykh generatorov. Izd.3., Pod red. A.A.Fogelia. Moskva, Mashinostroenie, 1965. 57 p. (Bibliotechka vysokochastotnika-termista, no.10)
(MIRA 19:1)

SUDAKOV, P.M.; DONSKOY, A.V., doktor tekhn. nauk, prof., retsenzent; FOGEL', A.A., kand. tekhn. nauk, red.

[Equipment and measurements in high-frequency heating] Pribory i izmereniia pri vysokochastotnom nagreve. Izd.2., ispr. i dop. Pod. red. A.A.Fogelia. Moskva, Mashinostroenie, 1965. 73 p. (MIRA 18:12)

BOGDANOV, V.N.; DONSKOY, A.V., doktor tekhn. nauk, retsenzent;
FOGEL', A.A., kand. tekhn. nauk, red.

[High-frequency welding of metals] Vysokochastotnaia svarka metallov. Pod red. A.A.Fogelia. Moskva, Mashinostroenie, 1965. 65 p. (Bibliotechka vysokochastotnika termista, no.11) (MIRA 19:1)

L 03766-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/HW/JG
ACC NR: AR6029496 SOURCE CODE: UR/0137/66/000/006/D036/D036

AUTHOR: Donskoy, A. V.; Kostygov, A. S.; Klitin, N. P.; Lokshin, V. A.; Stepanov, A. V.

TITLE: Production of longitudinally ribbed pipe from molten metal and the investigation of thermal and manufacturing properties of the pipe

SOURCE: Ref. zh. Metallurgiya, Abs. 6D251

REF SOURCE: Uch. zap. Leningr. gos. ped. in-ta im. A. I. Gertsena, no. 265, 1965, 12-32

TOPIC TAGS: pipe, ribbed pipe, convective heat exchange

ABSTRACT: Longitudinally-ribbed pipes produced from molten metal by the A. V. Stepanov method possess a combination of properties which in a number of cases, makes them suitable for use in the production of heat-exchange equipment. The convective heat exchange in clusters of longitudinal pipe has a pattern identical to internal heat exchange in channels during longitudinal joining. The production technology of longitudinally ribbed pipes is discussed in detail. Orig. art. has: 14 figures. L. Kochenova. [Translation of abstract] [AM]

SUB CODE: 13/

Card 1/1 UDC: 621.771.35

DONSKOY, A.V.; LUTSKER, I.Sh.; SMORODINOV, V.V.

Noncontact temperature regulators with semiconductor thermal pickups for electric resistance heaters. Izv. vys. ucheb. zav.; prib. 8 no.3:119-124 '65. (MIRA 18:11)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina. Rekomendovana kafedroy elektroizmeritel'noy tekhniki.

L 15970-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(k)/EWP(b) I.P(c) JD/WW/HW/JG/GG

ACC NR: AT6002272 (N) SOURCE CODE: UR/2564/65/006/000/0360/0364

AUTHOR: Gol'dfarb, V.N.; Donskoy, A.V.; Stepanov, A.V. 54 51 B+1

ORG: none

TITLE: Some problems of shaping during crystallization by pulling from a melt. (Paper presented at the Third Conference on Crystal Growing held in Moscow from 18 to 25 November, 1963.) III

SOURCE: AN SSSR. Institut kristallografii. Rost kristallov, v. 6, 1965, 360-364

TOPIC TAGS: metal crystallization, crystal growing, aluminum alloy, metal tube

ABSTRACT: Among the relationships between the characteristics of the process of pulling thin crystals from melts, an important one is the relationship between the geometry of the shaper slit, height of the crystallization front, and geometry of the crystal being pulled. The following rules were established for the pulling of tubes of aluminum alloys: (1) The more the shape of the sample deviates from the shape of the slit, the higher the crystallization front; (2) The decrease in thickness in sections with small radii of curvature is slower; (3) As the height of the crystallization front rises, the dependence of the thickness of the sample on the slit width decreases, and the dependence on the cooling and pulling

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ACC NR: AT6002272

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rate increases; (4) A rise of the melt level causes an increase in the thickness of the tube. To determine the dependence of the thickness of the crystal on the pulling rate v, cooling rate (heat transfer coefficient α), overheating of the melt ΔT, and shaper slit width, results of a solution of the thermal and capillary problem were used. The calculations were compared with measurements of the thickness of ribbons pulled with local cooling, and the agreement was considered satisfactory. The method of calculation is applicable not only to ribbons, but to crystals of other shapes as well. Orig. art. has: 6 figures.

SUB CODE: 11, 20 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 001

pulling tubes from molten metals
18, 44, 55

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L 47349-66 [illegible](m)/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/HW/JG/JH

ACC NR: AR6029187 SOURCE CODE: UR/0137/66/000/006/D040/D040

AUTHOR: Donskoy, A. V.; Stepanov, A. V.

TITLE: Production of flattened thin-walled pipe (pipe in sheet) from molten metal

SOURCE: Ref. zh. Metallurgiya, Abs. 6D276

REF SOURCE: Uch. zap. Leningr. gos. ped. in-ta im. A. I. Gertsena, no. 265, 1965, 33-41

TOPIC TAGS: pipe, thin walled pipe, aluminum pipe, copper pipe, brass pipe, heat exchange equipment

ABSTRACT: The production of pipes from sheet is investigated. Pipes made from aluminum, copper and brass sheet are widely used in the construction of heat-exchange equipment, refrigerators and air conditioning units. Orig. art. has: 8 figures and a bibliography of 8 reference items. L. Kochenova. [Translation of abstract] [AM]

SUB CODE: 13/

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UDC: 621.774.37:669.3'71